



U.S. Department of Agriculture
Agricultural Research Service

U. S. National Arboretum News and Notes

Fall 2004

News and Notes is issued three times a year, in January, May, and September, to stakeholder organizations to keep them informed about recent arboretum accomplishments and activities. Stakeholders are encouraged to use material from this document in reports to their members. Please send comments to:

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Pardon our Dust!

Each year, the arboretum tries to begin major construction and renovation projects soon after peak visitation season. This will be an unusual autumn and winter at the USNA due to multiple construction projects taking place on the grounds at the Washington, D.C., campus. While this will result in greatly improved facilities for visitors and staff, there will be some disruption in normal activities and availability of some facilities and areas. Every effort will be made to minimize the impact on ongoing programs, activities, and the quality of the visitor experience.

National Bonsai and Penjing Museum

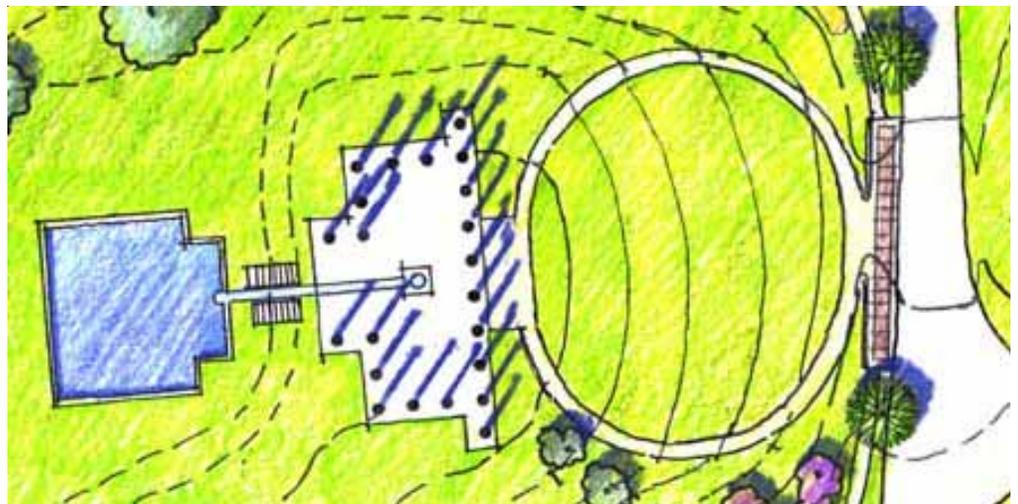
The lower courtyard and the Chinese Pavilion in the National Bonsai and Penjing Museum will be closed to the public in mid-September. The courtyard will be re-graded, the loose gravel removed, and the area covered with irregular stone pavers

to make this part of the museum more accessible. A new large arbor and seating area will serve as an outdoor demonstration area. The Chinese Pavilion will be cleaned and painted, and new lighting and improved ventilation will be installed. The work should be completed by early spring.

National Capitol Columns and Ellipse

A new accessible pathway leading up to the National Capitol Columns will be built along with a new parking area for visitors to this historic feature. This will make this frequently visited site more available to all visitors.

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National Capitol Columns accessibility design by landscape architecture firm Mahan Rykiel Associates, Inc.

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A new accessible Flowering Tree Walk will connect the columns with the National Herb Garden, the National Bonsai and Penjing Museum, the Azalea Collections, and the columns overlook area. The walkway will be lined, in part, with examples of exciting flowering trees as well as with benches. This will provide a pleasant pathway for people to leisurely visit this part of the arboretum without having to compete with vehicles. A large bio-retention area will be constructed as part of this project. It will receive the storm water from the northern part of the ellipse area and provide an opportunity for the water to filter back into the ground rather than being piped off the property. A construction fence will be erected along the perimeter of the construction site. Work should begin this autumn and continue through early Spring 2005.

Dogwood Collection

The large shelter overlooking the Anacostia River will be completely renovated and improved. The effects of age as well as of being struck by lightning have taken a toll on this structure. This work will begin this winter with the new facility ready to receive visitors by Spring 2005.

In addition to the construction projects, the arboretum will move forward with the planning and design for several other facility improvement projects. Plans for the new entrance from Bladensburg Road have been completed. This will be built when funds become available. Plans to totally renovate the building that houses the

education and visitor services, research, and gardens units and administrative offices are under way, with the design phase scheduled for completion by mid 2005.

Hickey Run, a small badly polluted stream that flows through the arboretum, is the focus of two major projects. A contract has been awarded to design systems that will catch and remove much of the floatable trash and liquid pollutants that enter the stream from the storm drainage system in northeastern Washington, D.C. Arboretum staff members are working with a unit of the U. S. Fish and Wildlife Service to develop a stream restoration plan for Hickey Run and its tributaries. When fully implemented, these efforts will result in a dramatic reduction in pollutants and a healthier, more attractive stream setting within the arboretum's grounds.

Please bear with us in the coming months as work gets under way to improve facilities and the grounds.

Mumtober! A Chrysanthemum Celebration

The arboretum will embrace autumn with a series of exciting educational exhibits and demonstrations throughout the month of October. These exhibits feature the colorful autumn chrysanthemum in Japanese viewing stones, bonsai, and floral arrangements. The celebration begins October 1 with an exhibit in the International Pavilion of the

National Bonsai and Penjing Museum of stones that reflect the image of chrysanthemum flowers through mineral deposits. This unique viewing stone exhibit will run through October 13. The Judge's Council of the National Capital Area Federation of Garden Clubs follows with "Autumn Splendor" from October 15 through October 17 in the auditorium of the administration building. Their annual show will highlight many varieties of chrysanthemums. Sogetsu Maryland opens the "Sogetsu with Chrysanthemums" exhibit on October 15. A free Sogetsu demonstration will be held on October 16; the exhibit closes on October 21. Closing the month will be a chrysanthemum bonsai exhibit, which runs from October 22 through October 31, with a free exhibit companion lecture with arboretum volunteer and chrysanthemum bonsai expert Dave Garvin on October 24. More complete descriptions, exhibit hours, and lecture and demonstration times can be found at <http://www.usna.usda.gov/Education/events.html>.



Chrysanthemum stone from the permanent collection of the National Bonsai & Penjing Museum.

Hundreds of Visitors Take Advantage of Summer Saturday Evening Hours

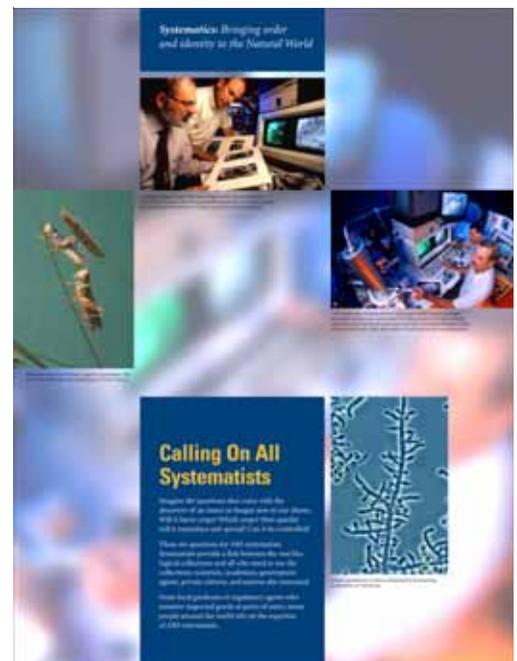
Four hundred and twenty-three people arrived at the arboretum between 5 and 7 p.m. on eight Saturday evenings in June and July. Thanks to the stakeholder support that helped to bring additional permanent funding into the Education and Visitor Services Unit in 2003, the arboretum was able again this year to stay open late for visitors to enjoy the cooler late afternoon and early evening hours. Last year, the first year the arboretum experimented with evening hours, 224 people visited during seven Friday evenings. Arboretum staff, along with representatives from several stakeholder groups, decided to try Saturday evenings this year since, in the past, so many visitors who are on the grounds before 5 p.m. on weekend days have expressed dismay at having to leave at 5 o'clock. In addition to a change in the evening, this year's experiment included free tours in the gardens and collections at 5 p.m. Arboretum staff led walks and talks through all of the collections, with a total of 116 people participating in one of the 11 tours offered (two tours were held on some evenings). While the majority of visitors were local, 25 were from out-of-town, some of them identifying themselves as tourists seeking a beautiful place to relax. Tram tours offered at 5:30 each Saturday evening were also new, but not as successful.

This was most likely because many visitors had been to the arboretum before. Also, a common reason visitors stated for coming during the evening hours was to walk through the collections and to enjoy the grounds. The extended hours would not have been possible without the support of the stakeholder groups, notably the Friends of the National Arboretum and the National Capital Area Federation of Garden Clubs, who helped recruit volunteers. Volunteers surveyed and counted visitors as they entered the R Street gate, conducted random surveys of visitors on the grounds, and walked through the collections and gardens to augment staff presence. An overwhelming majority of visitors surveyed said they'd definitely return on a Saturday evening.

Exhibit on Systematics in Lobby of Administration Building Through September

An exhibit on the highly specialized science of systematics and its impact on society is on display in the lobby of the arboretum's administration building until the end of September. The arboretum's systematics collection is one of many in the Washington, D.C., metropolitan area that collectively contain millions of samples of plants, insects, nematodes, fungi, bacteria and other microorganisms.

The various collections are used each day by scientists who work in the field of systematics, also known as taxonomy. Scientists at the Agricultural Research Service (ARS) Systematics Research Laboratory in Beltsville, Maryland, serve as a link between the biological collections and scientists, academics, government agents, private citizens and other users. With its partner, the Smithsonian Institution's National Museum of Natural History, ARS helps maintain hundreds of collections of thousands of insect species from all corners of the world. Systematics is the science of classifying and identifying species, which provides a formal nomenclature system—the task of assigning a name to a species—and allows systematists to identify, describe and organize these myriad living things. The exhibit is a joint project by the Henry A. Wallace Beltsville Agricultural Research Center and the National Arboretum and was produced by the ARS Information Staff.



Woody Landscape Plants Germplasm Repository Living Collections Manager Named

Kevin Conrad was hired at the beginning of July as the Manager of the Woody Landscape Plants Germplasm Repository Living Collections. This position, part of the Floral and Nursery Plants Research Unit, is also responsible for the oversight of the on-going transfer of the Repository from Glenn Dale, Maryland, to the Beltsville South Farm and the arboretum's grounds in the District of Columbia. Kevin is well known to most of the arboretum staff and stakeholders, and to many visitors, from his former position as collections manager in the arboretum's Herbarium. The research unit will be advertising to fill Kevin's former position in the Herbarium.

Plant Records Hires New Permanent Help

Mary Byrne, former intern in the arboretum's Plant Records Office, started work in a newly created support position for Plant Records on July 26. She graduated from Kent State University in May 2003 with a bachelor's degree in biology. Byrne is a native of Cleveland, Ohio. The Plant Records Office has been without a permanent support position for approximately ten years.



New Plant Records assistant Mary Byrne.

Until now, botanist Kevin Tunison has used intern help in accomplishing the work of entering data into the computer and bringing mapping software online. Byrne's position was created as a result of the recent increase in the Gardens Unit budget of nearly \$725,000. The increase resulted from a successful lobbying effort on the part of arboretum stakeholders. In addition to data entry and mapping, Byrne will also have responsibility for taking digital images of plants on the USNA grounds.

New Gardeners Hired

Four new horticulturists began work in newly created permanent support positions at the arboretum on July 26. Erin Clark, George Waters, Patrick Lynch, and Hannah Flynn will be working in various collections throughout the arboretum. Clark is originally from Kansas City, Missouri, and holds a degree in horticulture from Brigham Young University. Waters and Lynch held temporary positions in the Asian Collections, where they

had worked for several years. Flynn is a former National Herb Garden intern and most recently worked in the Fern Valley Native Plant Collection and the National Grove of State Trees. The new positions were created as a result of the

nearly \$725,000 increase in the Gardens Unit budget this year.



New gardeners (from left) Erin Clark, Patrick Lynch, Hannah Flynn, and George Waters.

The additional support will allow the Gardens Unit to improve maintenance of existing collections and tend to woodland and meadow areas that have been overtaken by invasive plants.

New Research Plant Pathologist Hired

Dr. Dilip Lakshman has joined the Floral and Nursery Plants Research Unit staff, taking over the research on Methyl Bromide Replacements previously carried out by Jim Locke, who transferred to another ARS location in Toledo, Ohio. Dr. Lakshman will also supervise the program to collect data to enable the registration of chemicals for usage on ornamental crops. He was previously at the University of Maine, where he has worked for a number of years conducting research on biological control of soil-borne plant pathogens.

Herb Garden Curator Honored by the Herb Society of America

James Adams, Curator of the National Herb Garden, was honored by the Herb Society of America in late June. He is the 2004 recipient of the Nancy Putnam Award for excellence in horticulture. Adams has served as curator of the National Herb Garden since 1997 and has led the way in improving it during his tenure. He was heavily involved in the effort to make the garden accessible to handicapped visitors, and has planned and implemented renovation of nearly all of the Theme Gardens in the National Herb Garden. He has greatly improved the quality of the garden and has introduced many new and creative programs, including the popular Bewitching Tour of the Herb Garden, a long-running Halloween program. Adams also led the team that worked with a landscape architecture firm on the development of the design for the Flowering Tree Walk.

Boxwood Collection Slated for Expansion

The National Boxwood Collection is in the process of a major expansion effort. New planting beds are being constructed to the south of the existing collection, in the vicinity of the junction of Boxwood Road and Azalea Road.



Mary Wohlleb, HSA Nominating Chair (left), James Adams (middle), and Arlene Kestner, HSA President (right).

Lynn Batdorf, Curator of the collection and International Cultivar Registration Authority for *Buxus*, will be planting out specimens that have been held in greenhouse and lath house facilities for many years due to the lack of space in the existing collection. The area chosen for the expansion follows the formal axis of the existing design and features a central circular bed. Plants collected by Batdorf during his 2003 trip to the Republic of Georgia and Azerbaijan will also be incorporated into the new planting, as will newly registered cultivars that have been received over the years. The initial planting will take place over the next two years. Daylilies and peonies may be included in the design.



Boxwood Collection showing layout of new beds.

Introduction Garden Named

For many years, the areas around the arboretum's Administration Building have been referred to by staff as the high visibility area. The area has never had a specific designation that was used in materials available to the public, but it has long been an area where many of the arboretum's plant introductions have been displayed. This summer, the area was given the name Introduction Garden. The name refers to the continued desire to display some of the best plant introductions that the arboretum has provided to the nursery industry and gardeners throughout the country. The Introduction Garden will also be used to highlight new plants, design ideas, and techniques as they come to the fore in American horticulture. The Introduction Garden will be redeveloped in the coming years. This initiative will begin with the redesign of the Court of Honor, to the north of the Administration Building, a project that is likely to take place in 2006.

Research Unit Investigates Mystery of *Lycoris incarnata* from Korea

In 1984, arboretum research staff collected *Lycoris* bulbs from Anduck Valley, Jeju Island, Korea, in collaboration with a professor at Jeju National University. The species of the bulbs could not be identified.

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Lycoris incarnata collected from Jeju Island.

By 1998, researchers had collected germplasm of various species of *Lycoris* from Japan, Korea, and China so that they could try to identify this mystery species by comparing the DNA markers and morphological characteristics of all of the bulbs.

The genus *Lycoris* is composed of about 20 species, which are mainly distributed in warm temperature and sub-tropical zones of China, southern Korea, and Japan. Due to the occurrence of natural hybridization among many fertile species, hybrids of diverse morphological features occur in nature and in cultivation. Therefore, it is very difficult to identify unknown *Lycoris* bulbs based solely on morphological characteristics such as flower shape and flower color. Researchers used a process called Random Amplified Polymorphic DNA that identifies specific molecular markers to help identify the mystery bulb. They determined that it is *L. incarnata*. However, this only added to the mystery: *L. incarnata* is only known to be native to China.



View of Anduck Valley, Jeju Island.

There is no prior record that this species is native to Korea. The area on Jeju Island where the bulbs were collected was then undeveloped, but has since been well developed, and no further *L. incarnata* bulbs could be observed when scientists visited the area at flowering time. They found only *L. chejuensis*, known to be native to the island. Several explanations are possible. The bulbs could have been introduced deliberately or accidentally (e.g., from a shipwreck) from China and become naturalized. Or a small population of *L. incarnata* might have been native to the Anduck Valley area, where it is facing the Yellow Sea (Sea of China), which separates Korea and China. If *L. incarnata* was previously native to Jeju Island, it is assumed that *L. incarnata* is now locally extinct. If *L. incarnata* was introduced to Jeju Island and can naturally hybridize with *L. chejuensis*, new types of hybrid origin could evolve.

Arboretum scientists are continuing the effort to solve the mystery of the 1984 bulbs. In collaboration with scientists from Korea and Japan, they are collecting and testing more bulbs from the island as well as from other areas in Korea. In the meantime, some of the 1984 bulbs, maintained all these years at the arboretum's Beltsville research station, have been returned to Jeju

Province where they will be propagated and re-planted for local restoration. The arboretum's *Lycoris* collection grows in the Asian Collections and

in the research greenhouse. Preserving the bulbs at different locations will make it possible to maintain these valuable materials permanently, as well as allow sharing of the germplasm for additional genetic studies in the future.



Lycoris chejuensis

Bonsai Master Donates Prized Bonsai and Viewing Stones to National Penjing Museum

During a visit to the National Arboretum in May, California bonsai master Harry Hirao donated four special gifts to the National Bonsai and Penjing Museum. The first was one of his prized bonsai, a large California juniper that he collected 40 years ago. Mr. Hirao is so well known for this type of bonsai that he has been given the nickname Mr. California Juniper. The other three gifts were large viewing stones from the Eel River—a dry waterfall stone, an abstract stone, and a distant view mountain stone. These stones will soon be on outdoor display near the upper courtyard of the museum.

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California juniper donated by bonsai master Harry Hirao.

These generous donations represent Mr. Hirao's lifelong passion and love for bonsai and viewing stones. The arboretum is grateful for his giving spirit and continuing support of the museum.

Proven Winners and Smithsonian Plants Featured in Introduction Garden

Proven Winners and the Smithsonian Institution provided plants for the creation of new container gardens on the terraces in the Introduction Garden this year. A variety of bold tropical plants including unusual species of *Hedychium* and *Curcuma* were donated by the Smithsonian Institution. New and upcoming Proven Winners plants were provided as well. Proven Winners is an international marketing cooperative comprised of some of the world's best propagators who produce bedding and container plants. James Adams, Curator of the National Herb Garden, selected new pottery for display of the plants and designed the container gardens.

Iddings Represents Arboretum's Volunteer Program at National Botanical Conference

Education and Visitor Services Unit member Kari Iddings spoke at the American Association of Botanic Gardens and Arboreta conference in Dallas, Texas, in June. She participated in a panel titled, "Effectively Utilizing Volunteers in Your Fund-Raising Events." Bill Johnson from the Hillwood Museum served as moderator, and Kelly Ronafalvy, Marketing Programs Coordinator, The Scott Arboretum, Swarthmore College, and Holly Shimizu, Executive Director, U.S. Botanic Garden, were also on the panel. The focus of the presentations was to show how volunteer help increases the bottom line at fund-raising events. Iddings described the role volunteers play in helping to make the Friends of the National Arboretum's annual plant sale a financial success.

Librarian Attends Council of Botanical and Horticultural Libraries Conference

National Arboretum Librarian Robin Everly attended the 36th Annual Meeting of the Council of Botanical and Horticultural Libraries (CBHL) held in Pittsburgh, Pennsylvania, in June. The conference theme was "Opening Doors—Access to Collections Onsite and Online."

In addition to providing creative ways to provide access to library collections onsite and online, the conference offered sessions on handling exhibits and art work onsite and online as well. Other highlights were tours of a de-acidification plant, which uses a non-toxic method to restore acidic books and of Phipps Conservatory and the Hunt Institute for Botanical Documentation. CBHL is an international organization of individuals, organizations, and institutions concerned with the development, maintenance and use of libraries of botanical and horticultural literature. The USNA library is an institutional member of CBHL.

Scientists Represent Arboretum at Annual Nursery Trade Show

Two Floral and Nursery Plants Research Unit scientists participated in the Southern Nursery Association Research Conference and Trade Show in August.

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Arboretum staff member Ed McCarthy monitors booth at trade show.

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Dr. Sandra Reed, Research Geneticist, presented a talk on “Floral Characteristics of a *Hydrangea macrophylla* × *H. paniculata* Hybrid” at the research conference and chaired the “Plant Breeding and Evaluation” session. Dr. Donna Fare, Research Horticulturist, presented two poster papers, “Fertilizer Requirements for Shifting Landscape Trees from Smaller to Larger Containers” and “Effect of Bare Root and B & B Harvest on Growth and Establishment of Landscape-Size Trees.” She also chaired the “Growth Regulators” session. Both scientists are stationed at the Tennessee State University Nursery Research Center in McMinnville, Tennessee. An exhibit highlighting the various educational activities, garden collections, and research programs of the arboretum was on display at the trade show. In addition to a photographic display of arboretum activities, the exhibit featured new cultivars of ornamental plants recently released by the arboretum. The Southern Nursery Association Trade Show is held annually at the World Congress Center in Atlanta, Georgia. Over 336,000 square feet of horticultural products are displayed in 1600 creatively designed booths. Attendance at the trade show is typically 10,000 and includes nursery, landscape, and garden center professionals.

A New Look for the Program Calendar

The USNA Program Calendar has received a facelift. Previous editions of the calendar followed an 8-page,



single color, two-column brochure format and were printed at a cost of \$.40 each. After taking a course in brochure design, arboretum Horticulture Education Program Specialist Jennifer Lebling condensed the calendar to a 6-page, full-color, triple-column newsletter format at a cost of \$.24 per copy. This 40% decrease in printing costs represents a potential annual savings of more than \$4,500. Other improvements include a laser printed, bar-coded address label that will lead to annual savings for mailing services of approximately \$950. In addition, subscribers to the calendar are being encouraged to receive their copies through an electronic mailing list to reduce the number of printed calendars.



Volunteer Akiko Sprague, USNA Director Dr. Thomas Elias, and Librarian Robin Everly during visit of Washington Rare Book Society.

Washington Rare Book Society Visits the USNA Library

On Saturday May 1st, twenty members of the Washington Rare Book Society (WRBS) visited the National Arboretum Library to view its rare Asian books on ikebana, bonsai, and related arts. The library has a growing special collection of Asian books to complement and support the National Bonsai and Penjing Museum. The visiting group was very interested in seeing highlights of this unique collection. The USNA Librarian, Robin Everly, with the help of three volunteers, Kathleen Dougherty, Lynn Stanko, and Akiko Sprague, displayed such classical works as *Bijutsu Bonsai* (1882), *The Secret of Growing Bonsai* (1903), the first issue of the *Kokofu-ten* exhibit catalog (1934), and privately published auction books from the early 1900s. USNA Director, Dr. Thomas Elias, gave a fascinating talk on the Asian book making process (1700 -1900) and how it differs from the printing process in the West during the same time period. Afterwards, WRBS members were offered a private tour of the National Bonsai and Penjing Museum by Curator Jack Sustic. The Washington Rare Book Group began in the mid-1970s and currently has about 130 members, who include rare-book professionals (librarians, catalogers, conservators, curators), archivists, historians, book artists, private collectors, and book-dealers. WRBG's visit is an important first step in the arboretum's effort to inform library groups about the its unique bonsai special collection.

New Volunteer in the USNA Library

Kathleen Dougherty is a new volunteer in the USNA library where she is cataloging and processing new accessions to the library collection. She retired in January 2004 from the USDA National Agricultural Library (NAL). She had been head of the serials cataloging section. Dougherty had worked with the arboretum library staff during the implementation of the NAL online catalog, AGRICOLA, which includes the arboretum library collection. Prior to working at NAL, she worked at ARS Insect Pathology Laboratory from 1965-1980. The arboretum is very excited about having someone with Dougherty's expertise and experience helping with the collection.



The arboretum's *Lagerstroemia* 'Arapaho' is featured in the *Martha Stewart Living* article. Click [here](#) to view the arboretum's crapemyrtle photo gallery and [here](#) to read commonly asked questions and answers about crapemyrtles.

Arboretum's Crapemyrtle Breeding Program Featured in *Martha Stewart Living*

The July 2004 issue of *Martha Stewart Living* included an article about the National Arboretum's research program to breed cold-hardy and disease-resistant crapemyrtles. The article discusses the history and evolution of the program, from its beginnings with Dr. Egolf's research in the 1960s to the present day work being done by Dr. Margaret Pooler. Many of the USNA crapemyrtle introductions are described and featured in a colorful photo layout. The article provides good practical information on crapemyrtles for planting in Zone 6 and higher.

Japanese Garden Writers Pay Arboretum a Visit

A team of six Japanese garden writers and publishers visited the arboretum in August to obtain information about the arboretum's research programs and numerous plant releases and to tour the display gardens and collections. One reporter was from the *Yomiuri News*, the largest newspaper chain in Japan. Two others represented one of the leading garden design magazines in that country. Arboretum Director Dr. Thomas Elias spoke to the delegation and gave them a tour of the gardens and collections. This is part of a program to promote American horticultural products in Japan, coordinated, in part, through the USDA Agricultural Trade Office in Osaka, Japan, and the Maryland Department of Agriculture and Southern U.S. Trade Association.

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